MONARCH NECTAR PLANTS

Southeast

Left to right: Monarch on swamp milkweed, beach blanket-flower, and monarch on wingstem.

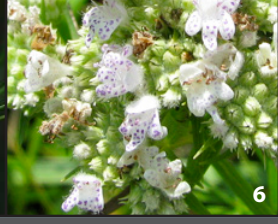
The Southeast region encompasses the states of Kentucky, Tennessee, Louisiana, Mississippi, Alabama, Georgia, and South Carolina. Reaching from the Gulf of Mexico to the Atlantic Ocean and spanning the Smokey, Blue Ridge, and Appalachian mountains, this area boasts incredible ecological diversity within a complex network of coastal marshes, longleaf pine forests, bottomland hardwoods, and mixed riparian woodlands. A diverse assemblage of wild pollinators thrives in these habitats, including summer breeding and fall migrating monarchs.

Each spring, monarchs leave overwintering sites in the mountains of central Mexico and coastal California and fan out across North America to breed and lay eggs on milkweed, the monarch's host plant. Several generations are produced over the course of the spring and summer. In late summer and early fall, adults from the northern U.S. and southern Canada migrate back to the overwintering sites, where they generally remain in reproductive diapause until the spring, when the cycle begins again.

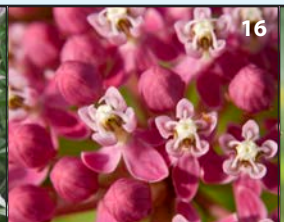
Monarchs at overwintering sites in Mexico and California have declined dramatically since monitoring began in the late 1990s. Across their range in North America, monarchs are threatened by a variety of factors. Loss of milkweed from extensive herbicide use has been a major contributing factor, and habitat loss and degradation from other causes, natural disease and predation, climate change, and widespread insecticide use are probably also contributing to monarch declines. Because of the monarch's migratory life cycle, it is important to protect and restore habitat across their entire range. Adult monarchs depend on diverse nectar sources for food during all stages of the year, from spring and summer breeding to fall migration and overwintering. Caterpillars, on the other hand, are completely dependent on their milkweed host plants. Inadequate milkweed or nectar plant food sources at any point may impact the number of monarchs that successfully arrive at overwintering sites in the fall.

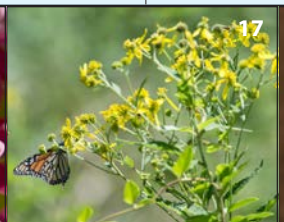
Providing milkweeds and other nectar-rich flowers that bloom where and when monarchs need them is one of the most significant actions you can take to support monarch butterfly populations. This guide features Southeast native plants that have documented monarch visitation, bloom during the times of year when monarchs are present, are commercially available, and are known to be hardy. These species are well-suited for wildflower gardens, urban greenspaces, and farm field borders. Beyond supporting monarchs, many of these plants attract other nectar- and/or pollen-seeking butterflies, bees, moths, and hummingbirds, and some are host plants for other butterfly and moth caterpillars. For a list of native plants that host butterflies and moths specific to your zip code see www.nwf.org/nativeplantfinder. The species in this guide are adaptable to growing conditions found across the Southeast region. Please consult regional floras, the Biota of North America's North American Plant Atlas (http://bonap.net/napa), or the USDA's PLANTS database (http://plants.usda.gov) for details on species' distributions in your area.

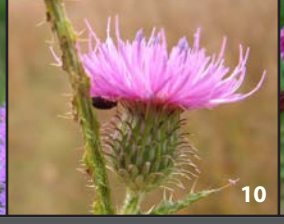
MONARCH JOINT VENTURE
XERCES SOCIETY for Invertebrate Conservation
NATIONAL WILDLIFE FEDERATION GARDEN FOR WILDLIFE



Bloom		Common Name	Scientific Name	Flower Color	Max. Height
		Forbs			(Feet)
Spring to Summer	1	Butterfly milkweed	*Asclepias tuberosa*	Orange/yellow	2
	2	Eastern smooth beardtongue	*Penstemon laevigatus*	Pink/purple	3
	3	Beach blanket-flower	*Gaillardia pulchella*	Red/yellow	2
Spring to Fall	4	Smooth oxeye	*Heliopsis helianthoides*	Yellow	5
	5	Whorled milkweed	*Asclepias verticillata*	White	3
Summer	6	Slender mountainmint	*Pycnanthemum tenuifolium*	White	3
	7	Blackeyed Susan	*Rudbeckia hirta*	Yellow/brown	3
	8	Blue mistflower	*Conoclinium coelestinum*	Blue/purple	3
	9	Dense blazing star	*Liatris spicata*	Purple	4
	10	Field thistle	*Cirsium discolor*	Purple	6
	11	Giant ironweed	*Vernonia gigantea*	Purple	8
Summer to Fall	12	Joe pye weed	*Eutrochium fistulosum*	Pink/purple	7
	13	Seaside goldenrod	*Solidago sempervirens*	Yellow	8
	14	Showy goldenrod	*Solidago speciosa*	Yellow	8
	15	Spotted beebalm	*Monarda punctata*	White/pink/yellow	3
	16	Swamp milkweed	*Asclepias incarnata*	Pink	4
	17	Wingstem	*Verbesina alternifolia*	Yellow	8
Fall	18	Narrowleaf sunflower	*Helianthus angustifolius*	Yellow	3
		Shrubs and Trees			
Spring	19	Eastern redbud	*Cercis canadensis*	Pink	30
Spring to Summer	20	Smooth sumac	*Rhus glabra*	White	20
	21	Common buttonbush	*Cephalanthus occidentalis*	White	12
Summer to Fall	22	Devil's walking-stick	*Aralia spinosa*	White	20
	23	Eastern baccharis	*Baccharis halimifolia*	White	15
Winter to Spring	24	Fragrant sumac	*Rhus aromatica*	White	12







Water Needs	Notes
Low, Medium, or High	All species perennials, unless otherwise noted. Monarchs are present April through July and again from late August through November in the Southeast.
L	Monarch caterpillar host plant and nectar source for many bees.
M	Also attracts bees and hummingbirds.
L	Establishes easily from seed; grows as an annual, biennial, or perennial.
L/M	Tolerates clay and moist soils.
L	Monarch caterpillar host plant.
L	Only found in eastern half of the region. Attracts bees, butterflies, and birds.
M	Can be biennial. Butterflies attractant. Drought tolerant.
M	Thin regularly to control spread by runners.
M	Highly adaptable and easy to grow. Attracts many butterflies, bees, and hummingbirds.
M	Native thistles have been decimated due to control of Canada thistle.
M	Thin regularly to control spread by suckers. Attracts a wide variety of pollinators.
M	Great nectar plant that attracts many pollinator species.
L	Tolerates saltwater spray and sandy soils. An important nectar source for coastal migrating monarchs.
L	Also frequented by a number of beneficial solitary wasps, pollen-eating soldier beetles, and more.
L	Tolerates dry, sandy soils; blooms prolifically; highly attractive to beneficial wasps and bees.
M	Monarch caterpillar host plant.
L/M	Attracts numerous insects, especially bumble bees. Considered undesirable plant in livestock forage.
M	Important nectar source for fall migrating monarchs. Latest flowering sunflower species.
L	Stunning pink flowers in spring. Visited by native bees for nectar and nesting material.
L	Tolerates poor soils. Good for stabilizing banks.
M	Fragrant, showy flowers that attract butterflies.
M	Can be aggressive in small spaces. There is an invasive *Aralia* species that should not be planted.
M	Tolerates saltwater spray and sandy soils. Good for erosion control.
L	Tolerates poor soils. Good for stabilizing banks or creating informal hedges.

Planting for Success

Monarch nectar plants often do best in open, sunny sites. You can attract more monarchs to your area by planting flowers in single species clumps and choosing a variety of plants that have overlapping and sequential bloom periods. Monarchs are present April through November in the Southeast. Providing nectar plants that bloom from spring through fall will be important for breeding and migrating monarchs in the region.

Why Plant Native?

Although monarchs use a variety of nectar plant species, including exotic invasives such as butterfly bush and lantana, we recommend planting native species. Native plants are often more beneficial to ecosystems, are adapted to local soils and climates, and help promote biological diversity. They can also be easier to maintain in the landscape, once established.

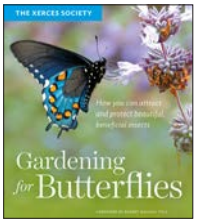
Tropical milkweed is a non-native plant that is widely available in nurseries. This milkweed can persist year-round in mild climates, allowing monarchs to breed throughout the winter rather than going into diapause. Tropical milkweed may foster higher loads of a monarch parasite called Oe (*Ophryocystis elektroscirrha*), which negatively impacts monarch health. Because of these implications, we recommend planting native species of milkweeds where they have historically occurred. You can read more about Oe in a fact sheet by the Monarch Joint Venture: http://monarchjointventure.org/images/uploads/documents/Oe_fact_sheet.pdf.

Protect Monarchs from Pesticides

Both insecticides and herbicides can be harmful to monarchs. Herbicides can reduce floral resources and host plants. Although dependent on timing, rate, and method of application, most insecticides have the potential to poison or kill monarchs and other pollinators. Systemic insecticides, including neonicotinoids, have received significant attention for their potential role in pollinator declines (imidacloprid, dinotefuran, clothianidin, and thiamethoxam are examples of systemic insecticides now found in various farm and garden products). Because plants absorb systemic insecticides as they grow, the chemicals become distributed throughout all plant tissues, including the leaves and nectar. New research has demonstrated that some neonicotinoids are toxic to monarch caterpillars that are poisoned as they feed on leaf tissue of treated plants. You can help protect monarchs by avoiding the use of these and other insecticides. Before purchasing plants from nurseries and garden centers, be sure to ask whether they have been treated with systemic insecticides. To read more about threats to pollinators from pesticides, please visit: www.xerces.org/pesticides.

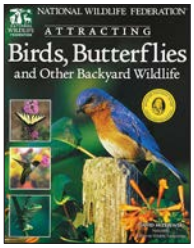
Additional Resources

Publications & Resources



Gardening for Butterflies

The Xerces Society's newest book introduces you to a variety of butterflies who need our help, and provides suggestions for native plants to attract them, habitat designs to help them thrive, and garden practices to accommodate all stages of their life. Available through www.xerces.org/books.



Attracting Birds, Butterflies, and Other Backyard Wildlife

This award-winning book by the National Wildlife Federation's naturalist David Mizejewski is full of information on gardening for birds, pollinators and other wildlife, including illustrated how-to projects, recommended plant lists, and gorgeous color photos. You'll learn everything you need to know to create a Certified Wildlife Habitat. Available through http://bit.ly/1Xhxfgu.

Conservation Status and Ecology of the Monarch Butterfly in the U.S. Report www.xerces.org/us-monarch-consv-report

Southeastern U.S. Monarchs and Milkweeds http://bit.ly/2bAachw

Milkweed Seed Finder www.xerces.org/milkweed-seed-finder

Websites

The Xerces Society www.xerces.org/monarchs

Monarch Joint Venture www.monarchjointventure.org/resources

Natural Resources Conservation Service www.nrcs.usda.gov/monarchs

National Wildlife Federation www.nwf.org/butterflies

Citizen Science Efforts in the Southeast

Journey North www.learner.org/jnorth/monarch

Monarch Larva Monitoring Project www.mlmp.org

Project Monarch Health www.monarchparasites.org

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Written by Candace Fallon, Nancy Lee Adamson, Sarina Jepsen, and Mace Vaughan. Designed by Kaitlyn Rich. Formatted by Michele Blackburn. PHOTO CREDITS: Steven Katovich, USDA Forest Service: left cover. Peter Gorman*: 1. Eleanor*: 2, 11. TexasEagle*: 3 (cover). Aaron Gunnar****: 4. Al Fischer*: 5. Nancy Lee Adamson, Xerces Society: 6. Dr. Nick V. Kurzenko***: 7. Evan Raskin****: 8. Lotus Johnson*: 9. athryn****: 10. James Gaither*: 12. Sam Fraser-Smith*: 13. pverdonk*: 14. Jennifer Hopwood, Xerces Society: 15. Frank Mayfield*: 16. Nicole Hamilton: 17 (cover). John Brandauer*: 18. Lisa Brown*: 19. Eric Hunt*: 19. Superior National Forest*: 20. Bob Peterson**: 21. Fritz Flohr Reynolds*: 22. Nancy Magnusson*: 23. jpc.raleigh*: 24. *Courtesy of flickr.com/**Wikimedia Commons/***CalPhotos/****iNaturalist. Photographs remain under the copyright of the photographer.

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